

CLAIM AMENDMENTS

Please amend the claims as follows:

1-12. (Canceled)

13. (New) A rotary apparatus adapted to perform as, compressor, pump, motor, metering device or an internal combustion engine, comprising of two identical vanes, two hollow sleeves, hollow liner, timing devices including cams and associated linkages, couplings/clutch, shaft, and braking/holding arrangement; said cams define a variable initial angular displacement between vanes at the start of sequence, commencing with one vane stationary and other rotating such that on reaching an angle of 360 degrees minus twice the initial angular displacement both vanes rotate together through the said initial angular displacement and the two vanes reach the said initial position with the individual vanes position interchanged, subsequently the previously held vane rotates and previously rotating vane is held stationary until the rotating vane reaches an angle of 360 degrees minus twice the initial angular displacement from the stationary vane and so on continually; said vanes are fitted on to the sleeves, one vane on each sleeve, such that the vanes are radial to sleeve's surface and at one of the ends of each sleeve; said vanes are so fitted that some portion of a vane surface protrudes out of the sleeve's end; said sleeves placed such that their ends fitted with vanes are placed adjacent, with the vanes angularly displaced by a minimum angle which is controlled, varied by said cams; said surfaces where the vanes are attached on the sleeves is such that it allows rotation of the adjacent vanes and sleeve fitting about the said coaxial axis of sleeves; said vanes are placed inside a liner; said liner along with the sleeve surface forms an enclosure; said liner's inner surface is contoured along the path traced by vane edge while rotating about the said axis, thus allowing rotation of the vanes about the said axis; said vanes divide the said enclosure formed inside the liner into two chambers, characterized by the fact that said two sleeves are coupled and uncoupled with a shaft by means of coupling/clutching arrangement actuated by cams placed on and, or driven by the sleeves, said braking arrangements actuated by said cams or holding arrangements maintain vanes stationary at a controlled but variable position alternately; said cams define the angle by which the vanes are held stationary, separated, rotated simultaneously or independently;

said timing devices allow both vanes to rotate simultaneously through a predefined variable angle resulting in the said apparatus functioning with a variable compression ratio.

14. (New) A rotary apparatus as claimed in claim 13 wherein the said cams have a profile such that the angle that the beginning and end of profile makes to the center line of the cam, defines the, and is equal to the, minimum angle of separation between the vanes during operation and the said minimum angle of separation defines the compression ratio, and the said angle of profile to the center line is gradually varied along the central axis, allowing alteration of the said minimum angle of separation between the vanes during operation by moving cam followers along the central axis through which the said angle of profile is varied, thus resulting in variation of compression ratio.

15. (New) A rotary apparatus as claimed in claim 13, wherein the sleeve end surfaces adjacent to each other are provided with sealing elements forming a continuous sealing line around said end surfaces blocking a leakage flow.

16. (New) A rotary apparatus as claimed in claim 13 wherein said vanes are provided with sealing elements blocking a leakage fluid flow across the vane edges.

17. (New) A rotary apparatus as claimed in claim 13 wherein sealing arrangements placed at the liner and sleeve interface, blocking a leakage flow.

18. (New) A rotary apparatus as claimed in claim 13 wherein communicating devices or flow regulating devices such as ports or valves are provided with, such that the said enclosure is communicated or sealed to spaces outside the enclosure.

19. (New) A rotary apparatus as claimed in claim 18 wherein the communicating device or flow regulating devices such as valves, is so placed, operated and, or timed, such that the apparatus be used as a compressor, motor, pump or a metering device.

20. (New) A rotary apparatus as claimed in claim 19 in which communicating devices and/or with means of energy addition and removal are provided, so placed, operated and, or timed, such that the apparatus be used as a prime mover like an internal combustion engine with a variable compression ratio.